

IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

Claim 1 (currently amended): A data communication system comprising:

a source node adapted to transfer object data;

~~one or more~~ a destination ~~[[nodes]]~~ node adapted to receive the object data transferred from said source node; and

a controller adapted to set a logical connection between said source node and said ~~one or more~~ destination ~~[[nodes]]~~ node,

wherein said source node is adapted (a) ~~to obtain connection information indicating the logical connection from said controller,~~ (b) to ~~[[set]]~~ determine a segment size and a segment data size in accordance with ~~reception capability~~ a size of a receiving buffer of a respective said destination node in order to divide the object data into one or more segments, the size of the receiving buffer being determined by said destination node in accordance with a maximum payload size that can be received by said destination node, ~~[[c)]~~ (b) to divide the object data into ~~one or more~~ segments in accordance with the segment size, (c) to divide each segment into a plurality of segment data in accordance with the segment data size, (d) to generate packets from the plurality of segment data, and ~~[[d)]~~ (e) to transfer the packets ~~including both data in the one or more segment and the connection information~~ from said source node to said ~~one or more~~ destination ~~[[nodes]]~~ node via ~~a serial bus~~ the logical connection set by said

controller.

Claims 2 - 7 (canceled)

Claim 8 (currently amended): A data communication system according to claim 1, wherein ~~each said destination node includes a receiving buffer, and wherein said source node is adapted to set the segment size in accordance with a size of said receiving buffer in each destination node~~ said source node is adapted to obtain connection information indicating the logical connection from said controller, and
wherein the packet generated by said source node include the connection information.

Claims 9 and 10 (canceled)

Claim 11 (previously presented): A data communication system according to claim 1, wherein the segment size of each segment is variable.

Claims 12 - 20 (canceled)

Claim 21 (currently amended): A data communication system according to claim 1, wherein said source node is adapted to transfer the packets via a serial bus ~~conforms~~
conformed to IEEE 1394-1995 standard.

Claim 22 (previously presented): A data communication system according to claim 1, wherein the object data includes image data.

Claim 23 (canceled)

Claim 24 (currently amended): A method of transferring object data from a source node to ~~one or more~~ a destination ~~[[nodes]]~~ node, said method comprising the steps of:

~~providing connection information indicating a logical connection between the source node and the one or more destination nodes from a controller to the source node, the logical connection between source node and the one or more destination nodes being set by the controller;~~

~~setting~~ determining a segment size and a segment data size in accordance with ~~reception capability~~ a size of a receiving buffer of a respective ~~the~~ destination node, the size of the receiving buffer being determined by the destination node in accordance with a maximum payload size that can be received by the destination node ~~in order to divide the object data into one or more segments;~~

~~dividing the object data into one or more segments in accordance with the segment size; [[and]]~~

~~dividing each segment into a plurality of segment data in accordance with the segment data size;~~

generating packets from the plurality of segment data; and

transferring the packets including both data in the one or more segment and the

~~connection information~~ from the source node to the ~~one or more~~ destination ~~[[nodes]]~~ node via a ~~serial bus~~ a logical connection set between the source node and the destination node, the logical connection being set by a controller.

Claims 25 - 27 (canceled)

Claim 28 (currently amended): A data communication apparatus which transfers object data to ~~one or more~~ a destination ~~[[nodes]]~~ node, said data communication apparatus comprising:

a control unit adapted (a) ~~to obtain connection information indicating a logical connection between a source node and the one or more destination nodes from a controller, the logical connection between said data communication apparatus and the one or more destination nodes being set by the controller,~~ (b) to ~~[[set]]~~ determine a segment size and a segment data size in accordance with ~~reception capability~~ a size of a receiving buffer of a ~~respective~~ the destination node ~~in order to divide the object data into one or more segments, the size of the receiving buffer being determined by the destination node in accordance with a maximum payload size that can be received by the destination node, and~~ (c) (b) to divide the object data into one or more segments in accordance with the segment size; and (c) to divide each segment into a plurality of segment data in accordance with the segment data size and

a data communication unit adapted (a) to generate packets from the plurality of segment data, and (b) to transfer the packets including both data in the one or more segment and

~~the connection information~~ from said data communication apparatus to the ~~one or more~~ destination ~~[[nodes]]~~ node via ~~a serial bus~~ a logical connection set between said data communication apparatus and the destination node, the logical connection being set by a controller.

Claims 29 - 34 (canceled)

Claim 35 (currently amended): A method according to claim 24, wherein ~~the segment size is set in accordance with a size of a receiving buffer in each destination node~~ the source node is adapted to obtained connection information indicating the logical connection from the controller, and
wherein the packets generated in said generating step include the connection information.

Claims 36 and 37 (currently amended)

Claim 38 (previously presented): A method according to claim 24, wherein the segment size of each segment is variable.

Claim 39 (canceled)

Claim 40 (currently amended): A method according to claim 24, wherein said

transferring step is adapted to transfer the packets via a serial bus ~~conforms~~ conformed to IEEE 1394-1995 standard.

Claim 41 (previously presented): A method according to claim 24, wherein the object data includes image data.

Claim 42 (canceled)

Claim 43 (currently amended): A data communication apparatus according to claim 28, wherein ~~each destination node includes a receiving buffer and wherein said control unit is adapted to set the segment size in accordance with a size of said receiving buffer in each destination node~~ said data communication apparatus is adapted to obtain connection information indicating the logical connection from the controller, and
wherein the packets generated by said data communication unit include the connection information.

Claims 44-45 (canceled)

Claim 46 (previously presented): A data communication apparatus according to claim 28, wherein the segment size of each segment is variable.

Claim 47 (canceled)

Claim 48 (currently amended): A data communication apparatus according to claim 28, wherein said data communication unit is adapted to transfer the packets via a serial bus
~~conforms~~ conformed to IEEE 1394-1995 standard.

Claim 49 (previously presented): A data communication apparatus according to claim 28, wherein the object data includes image data.